GEOG0013 Formative Question sheet: Introduction to Statistics

You are tasked with conducting an overall descriptive analysis of the unemployment rates across the 73 Spanish neighbourhoods in Barcelona.

1. Use the techniques to provide the overall summary measures of the unemployment rates and provide an appropriate interpretation of this variable (See section: **Descriptive and central tendency measures**).

2. **CHALLENGE**: Compare the unemployment rates between neighbourhoods within the following **two** selected districts: Horta-Guinardo and Nou Barris.

   Provide the following:

   - 3 to 5 lines of code chunks which shows how you would filter the neighbourhoods to the two selected Districts
   - A comparative interpretation of the unemployment rates based on summary measures
   - A dual boxplot to represent the second point graphically.

3. The unemployment rates mimic a normal distribution, generate an image showing the probability densities curve based on the unemployment's mean and standard deviation found in Question 1. Hint: As a starting point, create the intervals based on this code – `interval <- seq(0, 21, by = 3)`

4. What is the cumulative probability that neighbourhoods in Barcelona have unemployment rates that exceed threshold of the value 10?

5. **CHALLENGE**: Produce an image of the cumulative probability distribution that shows the shaded area of unemployment exceeding the value 10 (See section: **Scenario 2: The Probabilities for ("at least")**).